

**Minutes - James River Chlorophyll *a* Study
Stakeholder Advisory Group Meeting
Monday September 15, 2014
VCU Rice Center**

Agenda

- 10:00 Greetings & Introduction (John Kennedy)
- 10:10 Background (Arthur Butt)
- 10:30 JR Chl *a* Study: Progress, Upcoming Activity (Paul Bukaveckas)
- 11:30 Q & A
- 12:00 Lunch

The Stakeholder Advisory Group (SAG) for the study on James River chlorophyll water quality standards met for the third time on 9/15/14. John Kennedy, Office of Ecology Director, greeted the attendees and made introductions.

The SAG was briefed by Dr. Arthur Butt on the study background. The study was prompted by concerns that the nutrient load allocations for the James River under EPA's Chesapeake Bay Total Maximum Daily Load (TMDL) issued in December 2010 were significantly lower than the loadings originally allocated in 2003 which were expected at the time the standards were adopted. Preliminary estimates for the additional cost to achieve the lower loadings needed to meet the current standards are on the order of \$1-2 billion.

He reminded the stakeholder group that the study is reexamining the appropriateness of the current chlorophyll standards as being protective of the aquatic life designated use, whether or not they should be revised, and a sense of the "achievability" of the final standards. He briefly reviewed the general structure of the study and the current status of the study component schedules. Additional detail regarding background and scheduling is found in his presentation available at the below web link:

http://www.deq.virginia.gov/Portals/0/DEQ/Water/WaterQualityStandards/James%20River%20Chl%20A%20Study/SAG_Presentation_Background_SEP2014.pdf

Alex Barron then presented results of a risk assessment for human consumption of blue crabs that may contain microcystin toxins as a result of exposure to the algae *Microcystis*. The analysis of microcystin levels (a potential toxin produced by blue-green algae) in crab tissue concluded that concentrations within the crabs are much lower than thresholds of concern and no human health impacts are likely. The presentation regarding risk assessment microcystin-exposed blue crabs is available at the below web link:

http://www.deq.virginia.gov/Portals/0/DEQ/Water/WaterQualityStandards/James%20River%20Chl%20A%20Study/SAG_Microcystin_SEP2014.pptx

Dr. Paul Bukaveckas, project manager for the study, provided a general explanation of the problem encountered when trying to determine whether the tidal James River is experiencing eutrophication due to nutrient over-enrichment. Dissolved oxygen criteria are commonly used to establish target nutrient loads but are problematic when used in well mixed estuaries such as the tidal James that do not experience hypoxia. He then outlined the process through which the study attempts to answer whether or not the current chlorophyll ‘a’ criteria are protective. Dr. Bukaveckas stated that the preliminary study findings support a need for chlorophyll ‘a’ criteria in the tidal freshwater James River (support for chlorophyll ‘a’ criteria in the saline James is pending conclusion of current analytical tasks). He further stated that preliminary findings from the James River Study indicate the current criteria for the tidal freshwater portion of the river are protective of designated uses. However, additional lines of evidence, including bioassay results, phytoplankton community structure, literature review of similar studies, and other water quality indicators associated with elevated chlorophyll levels (e.g., pH, diurnal DO swings) are under investigation. The presentation for this portion of the meeting providing detailed information is located at:

http://www.deq.virginia.gov/Portals/0/DEQ/Water/WaterQualityStandards/James%20River%20Chl%20A%20Study/SAG_Presentation_Study_Summary_SEP2014.pdf

Attendees

NAME	AFFILIATION
Chris Moore	Chesapeake Bay Foundation
Joe Wood	Chesapeake Bay Foundation
Jason Ericson	Dominion Power
Richard Batiuk	EPA Ches. Bay Program
Jamie Brunkow	James River Association
Rebecca Leprell	VA Dept. Health
Jamie Mitchell	Hampton Roads Sanitation District
Christian Volk	American Water - VA
Kelly Ryan	American Water - VA
Paul Bukaveckas	VA Commonwealth University
Ernie Aschenbach	VA Dept. Game & Inland Fisheries
Jeanie Grandstaff	Hopewell Regional Wasterwater Treatment Facility
Arthur Butt	Dept. Environmental Quality
Melanie Davenport	Dept. Environmental Quality
John Kennedy	Dept. Environmental Quality
Alex Barron	Dept. Environmental Quality
David Whitehurst	Dept. Environmental Quality
Anne Schlegel	Dept. Environmental Quality
Tish Robertson	Dept. Environmental Quality